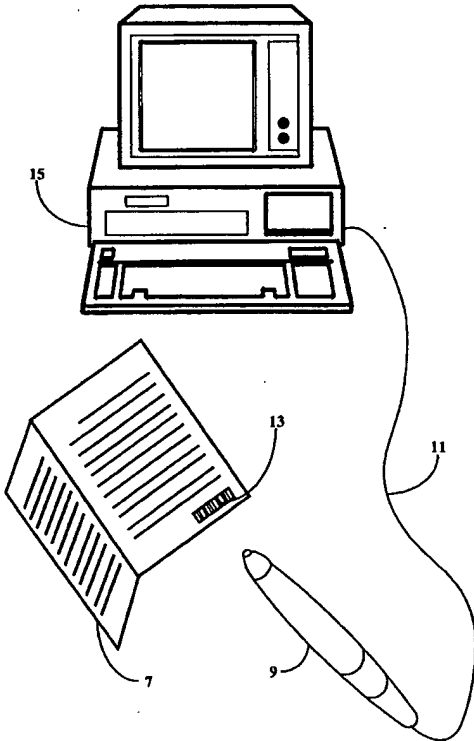


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(21) International Application Number: PCT/US98/04204 (22) International Filing Date: 4 March 1998 (04.03.98) (30) Priority Data: 08/815,690 12 March 1997 (12.03.97) US (71) Applicant: ELONEX PLC [GB/GB]; 2 Apsley Way, London NW2 7LF (GB). (71)(72) Applicant and Inventor: KIKINIS, Dan [CH/US]; 20264 Ljepava Drive, Saratoga, CA 95070 (US). (74) Agent: BOYS, Donald, R.; P.O. Box 187, Aromas, CA 95004 (US).		(81) Designated States: CN, JP, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
(54) Title: METHOD FOR COLLECTING URLs FROM PRINTED MEDIA		
(57) Abstract		
<p>A method for providing Universal Resource Locators (URLs) to potential users of the URLs (13) has the URLs (13) presented as machine-readable code in visible media, such as advertisements in newspapers (7) and magazines and in TV presentations. A machine reader, such as a bar code reader (9), connected to a computer (15) having a WEB browser application, is used to acquire the URL (13), and the acquired URL (13) is provided to the WEB browser application in the computer (15). In some cases the URL (13) is stored for future use, and in other cases the URL (13) is used immediately to direct the computer (15) or connect to the Internet Server storing the WEB page associated with the URL (13), and to download and display the WEB page, URLs (13) may be numeric code associated with URLs (13) in a table accessible on a Server on the Internet, printed or otherwise displayed bar code, magnetic ink, and other sorts of machine-readable code.</p>		
 <p>The diagram illustrates a system for collecting URLs from printed media. It shows a computer system (15) consisting of a monitor and a base unit. A network (11) connects the computer system to a server (7). A bar code reader (9) is connected to the computer system (15) and is positioned to read a bar code (13) on a printed medium. The bar code (13) is shown as a series of vertical lines of varying heights. The server (7) is shown as a rectangular box with a fan grille. The network (11) is represented by a curved line connecting the computer system to the server. The bar code reader (9) is shown as a handheld device with a lens and a trigger.</p>		

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Method for Collecting URLs from Printed Media

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Field of the Invention

The present invention is in the field of data collection devices, and has particular application to devices and systems for reading and scanning media for the purpose of storing information on a computer.

Background of the Invention

15 In the present age of the Internet, companies offering products or services for sale are creating what are known as Web sites on the Internet World Wide Web (WWW). These Web sites are accessible on the WWW by addresses termed Universal Resource Locators (URL).. Consumers who prefer to shop from their homes and corporate entities engaged in buying and trading with other corporations are targets for 20 URLs published in printed media and presented in television programs and advertisements by companies who see Web sites as a viable sales tool.

A URL address is a complex string of characters that includes 25 punctuation marks and separators. A URL can sometimes be quite long when compared to conventional codes used with computers, such as document paths. The character string that is a URL is designed to interact with computer software programs that are meant to act as navigation aids for users attempting to locate or "travel" to a desired 30 destination on the Internet. These software programs are typically known as browsers. A standard URL contains language symbolized by

the various characters in the string, and must be interpreted by the browser in order to take the user to the site. This information includes type of protocol, document path, host computer identification, and other information as may be needed, to identify subject matter, company
5 name, or type of product or service.

Typically, a user will manually type a URL into a field in a display provided by the navigating software. Typically by pressing enter on the keyboard after a URL is entered, the address URL) is submitted to the browser, activating the communication mode. When the host
10 computer responds, data is downloaded and a Web page is displayed on the user's screen. In virtually all cases, the user is expected to know the URL before he can submit it. This can be a problem as navigation software cannot interpret a URL that has been entered incorrectly. Also, some URL's are very long and complicated, as described previously,
15 making it even more difficult for most users to enter the URL error free. Copying a complicated URL from an advertisement in print or remembering it from seeing it briefly on television can be frustrating; especially if the characters are blurred or wrinkled, or otherwise compromised.

20 What is clearly needed is a system methodology, including software, compatible with existing technology, that would allow a user to scan and retrieve a URL and related information from a printed document or television screen, and transmit such information directly to a personal computer. A system with this capability could eliminate
25 human error as it relates to manually typing URL's, and other manual operations required to present this information to a suitable browser.

Summary of the Invention

In a preferred embodiment of the present invention, a method for providing a Universal Resource Locators (URL) comprising a character string to a computer user is provided, comprising steps of (a) converting
5 the character string to a machine-readable indicia; and (b) presenting the machine-readable indicia in a visible media available to the computer user. The machine-readable indicia may a bar code, and the bar code may provided on a printed presentation. Such bar codes may also
10 presented in at least one frame of a television presentation.

In some embodiments the URL is converted to a numeric code of fewer numerals than the number of characters of the character string of the URL, and the numeric code is converted into machine-readable indicia and presented in a visible media.

15 In another aspect of the invention, a method for acquiring a Universal Resource Locator (URL) for a browser application on a computer is provided, comprising steps of (a) reading the URL from a visible media with a machine-reader; and (b) storing the URL in a file accessible to the browser application. In this aspect, the URL in visible media may be a
20 bar code and the machine-reader in this instance is a bar code reader. Magnetic characters and a magnetic reader may also be used.

In yet another aspect of the invention, a method is provided for directing a Web-browser application running on a computer having an Internet connection to load and display a WEB page from an Internet
25 Server. This method comprises steps of (a) acquiring a Universal Resource Locator (URL) for the WEB page by reading the URL from a visible media with a machine-reader having a communication link to the computer; (b) providing the URL to a browser application running on the computer; and (c) directing the browser to connect to Internet Server
30 over the Internet connection and to download and display the WEB

page. Again the machine-reader may be a bar code reader and the URL a bar code representing the URL. The machine-reader may be a magnetic character reader, and the URL provided in magnetic ink in print media.

5

In yet another aspect a method is provided for acquiring a Universal Resource Locator (URL) for use in directing a WEB browser application to download and display a WEB page, comprising steps of: a) reading a numeric code in visible media with a machine-reader connected to a computer running a WEB browser application; (b) connecting to an Internet Server having a table of URLs associated with numeric codes; and (c) retrieving and storing the URL associated with the numeric code from the table. In some embodiments a further step (d) directs the computer to connect to the Internet Server having a WEB page associated with the URL and to download and display the WEB page.

10
15

In various embodiments of the invention methods are provided to allow quick and efficient acquisition of URLs, and to avoid human error in providing such URLs to a WEB browser.

20

Brief Description of the Drawing Figures

Fig. 1 is an illustration of an embodiment of the present invention, wherein a data collection device is shown reading a URL from a document while connected to a computer.

25

Fig. 2 is an illustration of software architecture as used in an embodiment of the present invention.

Fig. 3 is an illustration of an alternative embodiment wherein wireless communication is used, and the source document contains a URL that is both machine and human readable.

Fig. 4 is an illustration of yet another embodiment of the present invention wherein the source of information is television advertisement.

5

Description of the Preferred Embodiments

Fig. 1 is an illustration of an embodiment of the present invention wherein a URL 13 is rendered as a standard bar code, and printed on a source document 7. In an embodiment of the present invention, the methodology is Optical Recognition (OR). A data collection device 9, which is in this embodiment a bar code reader, is used to scan the bar code, and the URL is read into the computer attached to the bar code reader.

Optical Recognition as it applies to bar coding, is a standard method used in many industries, such as retail, shipping, and warehousing. It has proven to be highly successful and virtually error free. In this embodiment of the present invention the bar code reader reads the bar code, which is a coded URL, and stores the URL on the connected computer associated with a Web browser program. Most such programs incorporate lists of URLs known in the art as bookmarks. Bookmarks are typically displayed as literal names rather than as URLs, and a user may select a bookmark by pointer and cursor techniques well known in the art, wherein the browser application relates the literal name to the associated URL, and broadcasts the URL. In a preferred embodiment, scanning a bar-coded URL enters the scanned URL into the browser's Bookmarks data base.

In another embodiment of the present invention, a code system is created for the purpose of expressing URLs 13 in numerical form,

allowing for a shorter span of bars and spaces compromising each printed code. A software step (shown in Fig. 2) could be added to convert the URL 13 back to it's original character-string form, allowing the browser to utilize the information. In another embodiment

5 individual URLs 13 are registered at a separate site (server) on the WWW known by the navigating software. At this location, URLs are associated with numeric code, as suggested above. URLs entered as numeric code are broadcast to an Internet server, which compares the numeric code with a database, and returns the URL character string.

10 URLs may be decoded and read by the browser and downloaded to computer 15, or utilized for further navigation. Companies who provide OR products and services routinely customize bar codes to adapt to specific field requirements.

It will be apparent to one with skill in the art that there are

15 many ways to customize and standardize bar code sequences utilizing software and customer support operations that may provide decoding areas on the Internet or other such aids.

Fig. 2 is an illustration of software architecture as is used in a preferred embodiment of the present invention, wherein source

20 document 7, containing URL 13, is scanned using data collection device 9. The scanned information is then transmitted to a URL data file in step 17. In an embodiment where Optical Recognition is used (bar coding), a URL conversion process is added in step 19 for decoding purposes.

After converting the information, a navigator screen is displayed in step

25 21. A tool on the navigator screen in step 21 allows the user to retrieve converted URL's in step 23. An option is then presented allowing the user to store URL's in a bookmark file for repetitive accessing, or in a cache for later use. A desired URL can then be selected and a decision made to go to that destination in step 31. The navigating software will

30 then automatically connect the user to the Internet and display the Web

page associated with the URL in step 33. Additional URLs can be accessed at any time from the bookmark file or the cache and submitted in step 31 resulting in a new Web pages in step 33. This process is achieved in a preferred embodiment of the present invention such that no
5 typing on the keyboard is required.

It will be apparent to one with skill in the art that there are many ways software might be designed to interface with an existing or modified network navigator to achieve the desired results of eliminating the possibility of human error. For example, in one embodiment, the
10 entire process may be wholly automated from the scan to the resulting Web page thereby eliminating any user interaction. This automated option could exist for users who desire to go directly to the Web page after each separate scan.

It will also be apparent to one with skill in the art that there are
15 numerous methods of communication that may be utilized in transmitting scanned information from the media source to the computer such as, MICR (Magnetic Ink Character Recognition), OCR (Optical Character Recognition), OMR (Optical Mark Recognition) etc. Fig.'s 3 and 4, described below, will illustrate two of the many additional
20 embodiments that are in accordance with the spirit and scope of the present invention.

Fig. 3 is an illustration of an embodiment of the present invention wherein source document 7 contains URL 13 printed in magnetic ink, to be read by data collection device 9 using the technology
25 of MICR. In this embodiment, in accordance with the present invention, data collection device 9 is shaped like a pen and is equipped with a magnetic reader at the head. In another embodiment, the data collection device might be shaped differently so long as the magnetic reader can make sufficient contact with the printed surface. Also in this
30 embodiment, the method of communication between data collection

device 9 and computer 15 is of a wireless form such as Infrared, or Microwave. The term wireless, as is used in an embodiment of the present invention, is defined by the capability of the system to transmit digital information from one point to another without the use of cable

5 11.

Regardless of the method of communication used to transmit digital information, or the technology used to scan source document 7, the methodology of the present invention is the same in scope and purpose, that is, to scan URL 13 and transmit information directly to
10 computer 15 without copying, typing, or performing other steps which could introduce human error.

One advantage of using MICR technology is that URL 13 is both machine and human readable. In the event of system breakdown, human input could be used. Also, magnetic ink printers are now
15 commercially available, and magnetic ink, toner, and other accessories are more readily available than they were in the past. This could allow advertisers a smaller capital investment in printing costs than might be the case with newer technologies.

Another advantage illustrated in Fig. 3 is the wireless mode of
20 communication used to transmit scanned information to computer 15. Wireless communication could be utilized when working in a network environment where this form of communication is standard. This form of communication could also be used in an embodiment where the presence of a cable might be inconvenient.

25 The software used in conjunction with various embodiments of the present invention may be slightly modified to interface with each case where different technologies are used, however, the scope and purpose of the software would remain the same as described in Fig. 2. For example; an embodiment described with reference to Fig. 3 would

not require the URL conversion process described in step 19 of Fig. 2, however, the remaining software would function as intended.

Fig. 4 is an illustration of an embodiment of the present invention wherein source document 7 is a television advertisement, and
5 data collection device 9 is an interactive tool, much like a joy stick available with interactive computer games. Circuitry may be incorporated into the television set which allows the URL 13 to be recognized by a remote receiver in data collection device 9. The information is then transmitted to computer 15 via cable 11..

10 As more companies progress from local advertising in print media to national advertising in television media, URL's 13 will be incorporated into television commercials, programs, and infomercials. The likelihood of human error involved in copying and transporting URL 13 from a television is even greater than it is from print. URL 13
15 is displayed on the television screen only temporarily, making it difficult to remember and write down. Even when a viewer may have pen in hand, the time required to physically write URL 13 on paper is limited to the time that it is displayed on the screen, causing the user to write hurriedly, perhaps resulting in missed symbols or illegible characters.
20 Advertisers would benefit enormously by having their URL's 13 automatically transmitted safely into a users computer, thereby eliminating lost business caused by human error.

It will be apparent to one with skill in the art that there are many embodiments both unique and advantageous that might be created, and
25 changes that might be made to said embodiments, without departing from the spirit and scope of the present invention. Many such variations have already been described above.

What is claimed is:

1. A method for providing a Universal Resource Locators (URL)
5 comprising a character string to a computer user, comprising steps of:
 (a) converting the character string to a machine-readable indicia;
 and
 (b) presenting the machine-readable indicia in a visible media
 available to the computer user.
10
2. The method of claim 1 wherein the machine-readable indicia is a bar
code, and the bar code is provided on a printed presentation.
3. The method of claim 1 wherein the machine-readable indicia is a bar
15 code, and wherein the bar code is presented in at least one frame of a
television presentation.
4. The method of claim 1 wherein the URL is converted to a numeric
code of fewer numerals than the number of characters of the character
20 string of the URL, and the numeric code is converted into machine-
readable indicia and presented in a visible media.
5. The method of claim 4 wherein the machine-readable indicia is a bar
code.
25
6. The method of claim 1 wherein the machine-readable indicia is the
URL character string printed in magnetic ink.
7. A method for acquiring a Universal Resource Locator (URL) for a
30 browser application on a computer, comprising steps of:

(a) reading the URL from a visible media with a machine-reader;
and

(b) storing the URL in a file accessible to the browser
application.

5

8. The method of claim 7 wherein the URL in visible media is a bar
code and the machine-reader is a bar code reader.

9. The method of claim 7 wherein the URL in visible media is a
10 character string printed in magnetic ink, and the machine-reader is a
magnetic character reader.

10. A system for directing a Web-browser application running on a
computer having an Internet connection to load and display a WEB page
15 from an Internet Server, comprising steps of:

(a) acquiring a Universal Resource Locator (URL) for the WEB
page by reading the URL from a visible media with a machine-reader
having a communication link to the computer;

(b) providing the URL to a browser application running on the
20 computer: and

(c) directing the browser to connect to Internet Server over the
Internet connection and to download and display the WEB page.

11. The method of claim 10 wherein the machine-reader is a bar code
25 reader and the URL is a bar code representing the URL.

12. The method of claim 10 wherein the machine-reader is a magnetic
character reader, and the URL is provided in magnetic ink in print
media.

30

13. A method for acquiring a Universal Resource Locator (URL) for use in directing a WEB browser application to download and display a WEB page, comprising steps of:

- 5 (a) reading a numeric code in visible media with a machine-reader connected to a computer running a WEB browser application;
 - (b) connecting to an Internet Server having a table of (URLs associated with numeric codes; and
 - (c) retrieving and storing the URL associated with the numeric code from the table.
- 10 14. The method of claim 13 comprising a further step (d) directing the computer to connect to the Internet Server having a WEB page associated with the URL and to download and display the WEB page.

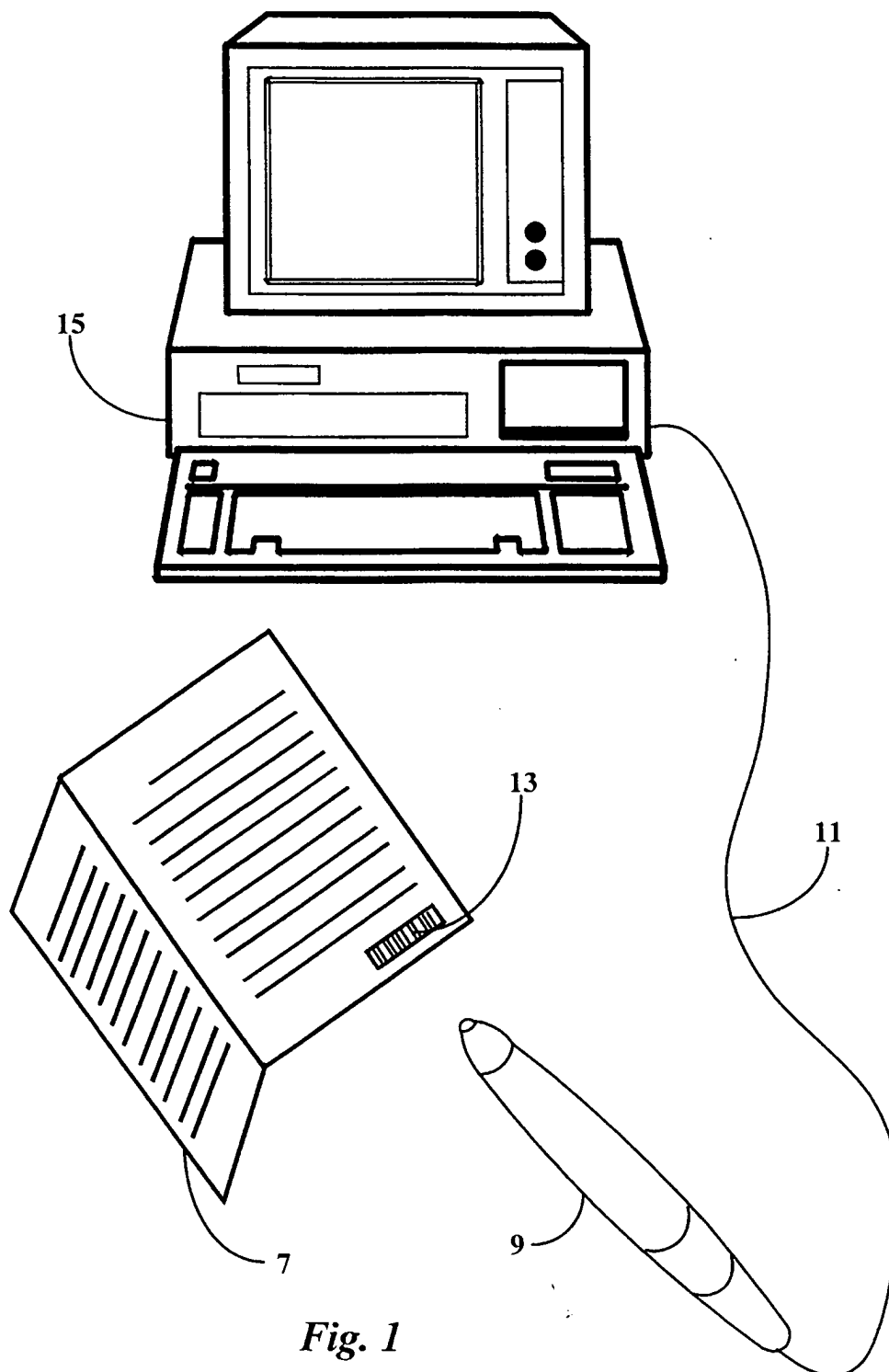


Fig. 1

SUBSTITUTE SHEET (RULE 26)

2/4

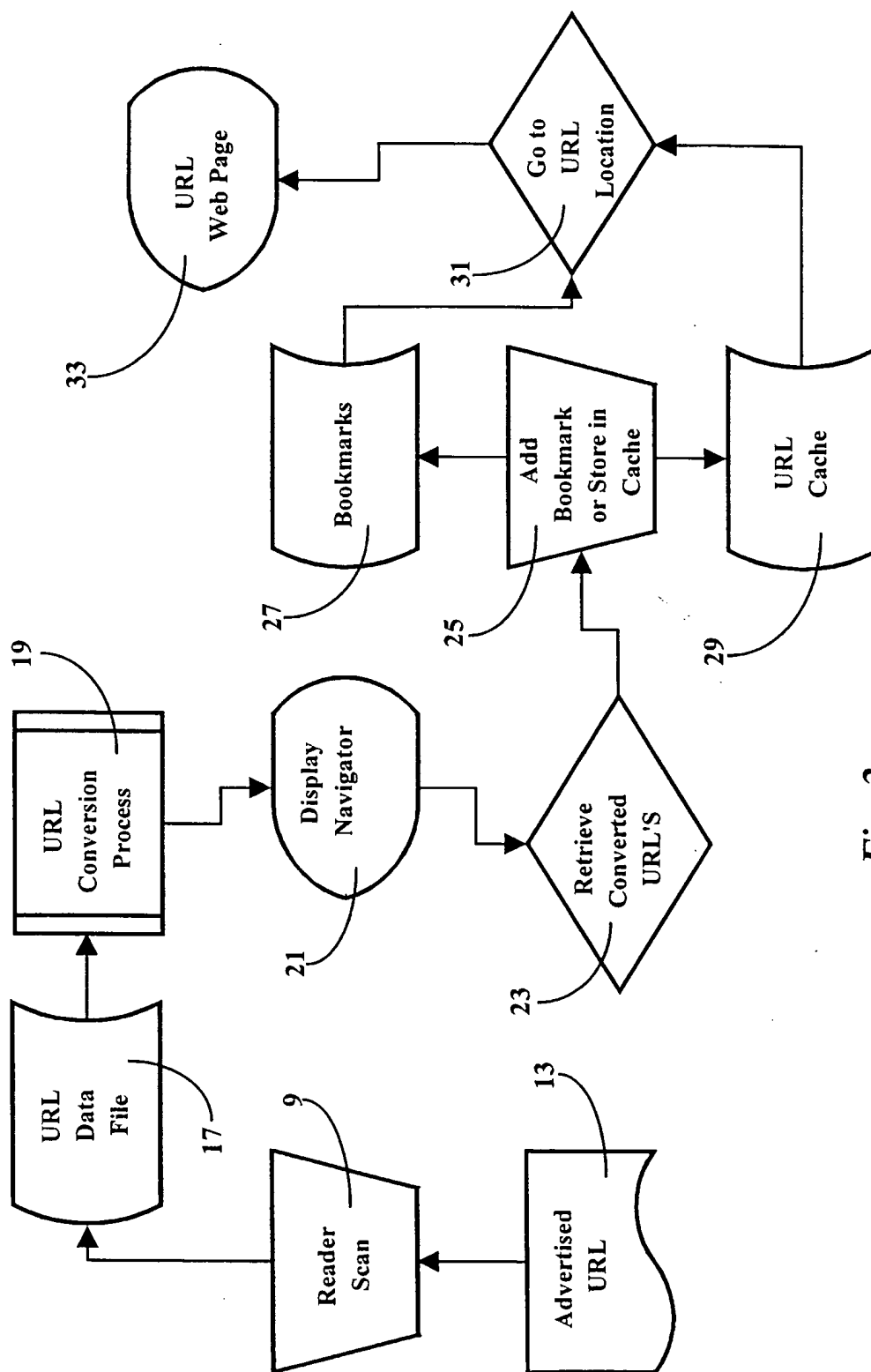


Fig. 2

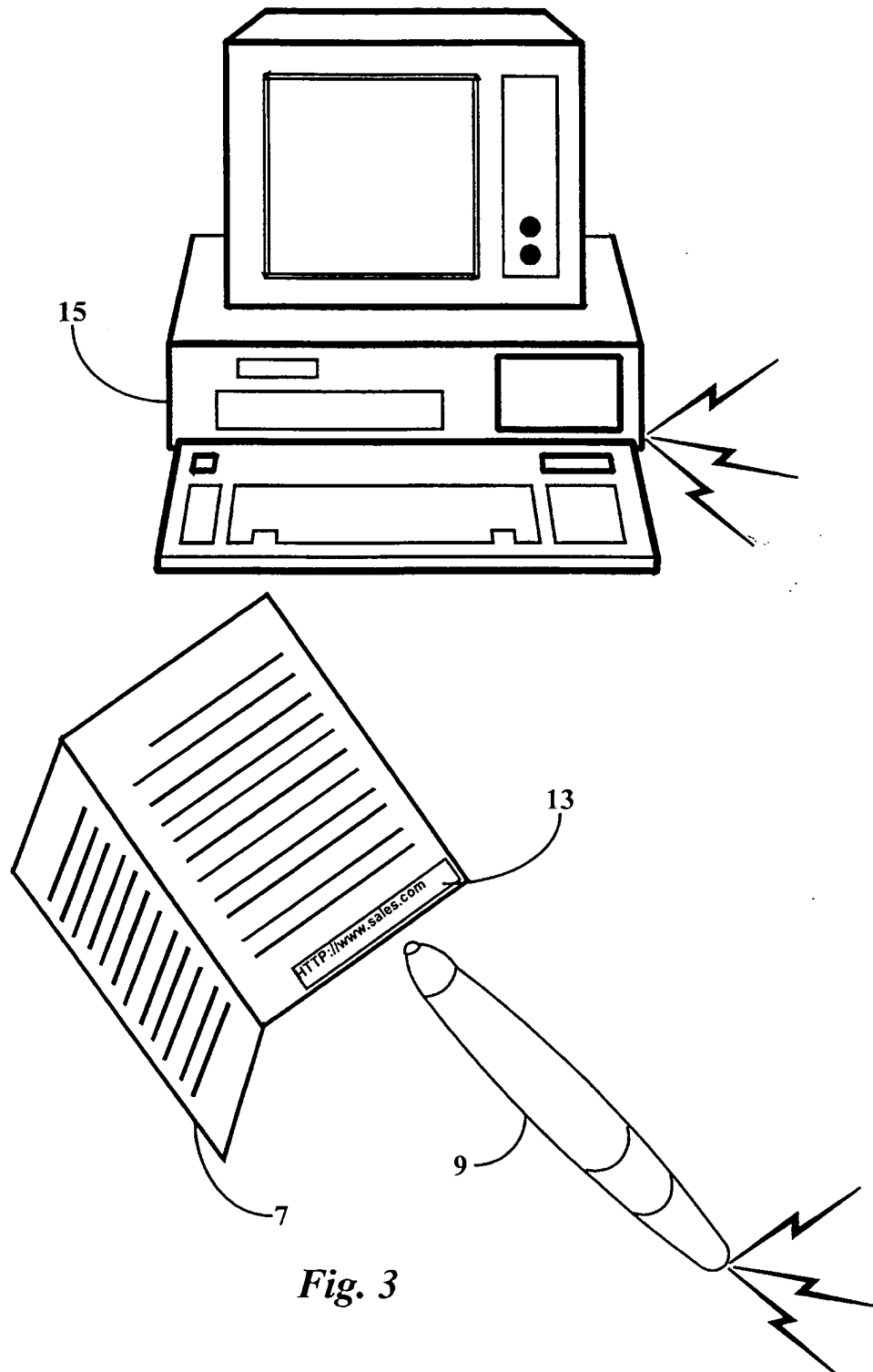


Fig. 3

4/4

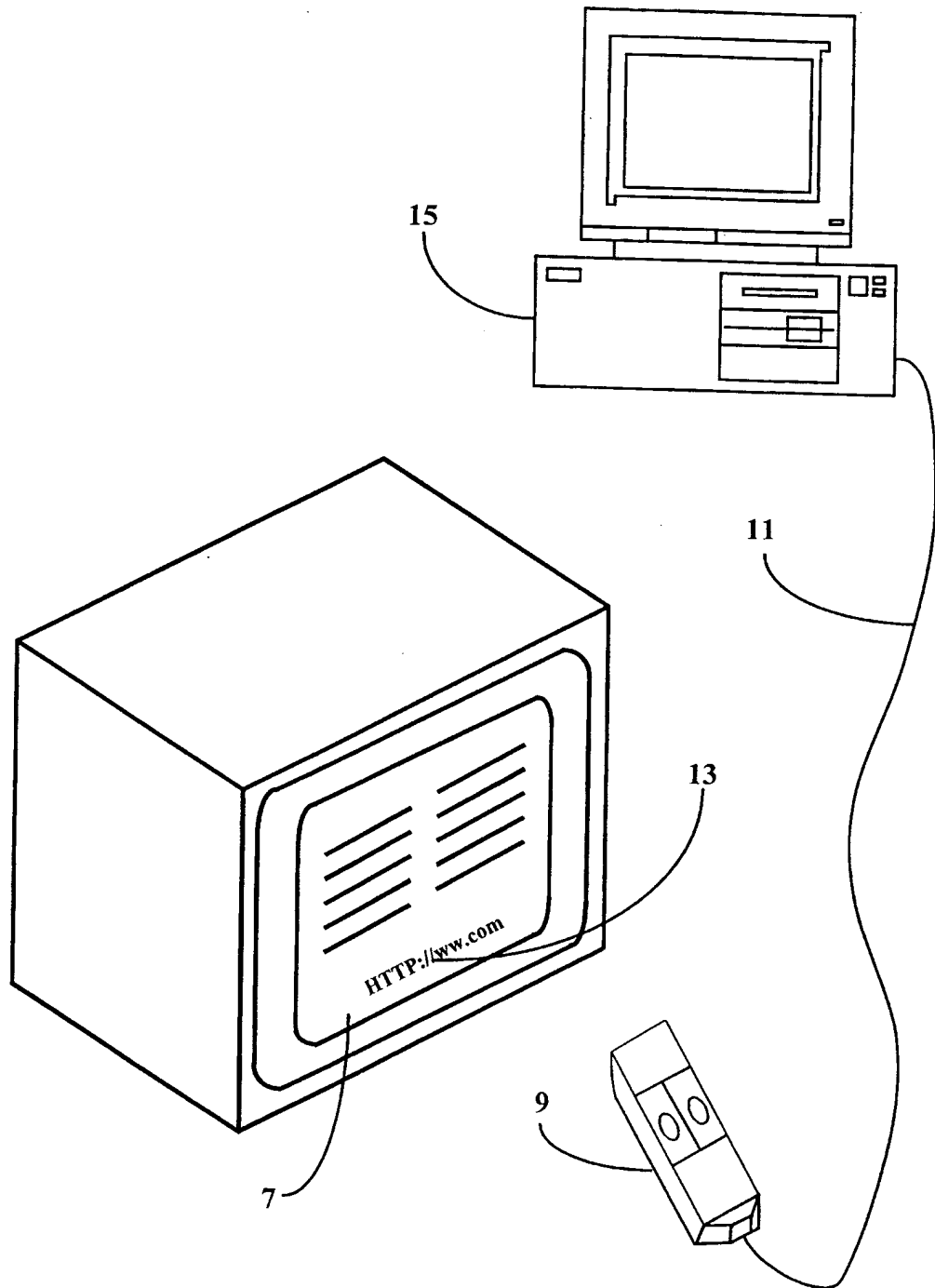


Fig. 4

SUBSTITUTE SHEET (RULE 26)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US98/04204

A. CLASSIFICATION OF SUBJECT MATTER IPC(6) :G06F 13/00 US CL :Please See Extra Sheet. According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 395/200.33, 200.38, 200.47, 200.48, 200.49, 200.55, 200.56, 200.57, 200.59, 200.75 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) APS, DIALOG (universal or uniform)resource locator(s), URL, bar code(s), Internet		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	HUDETZ, FRANK, SYSTEM FOR USING ARTICLE OF COMMERCE TO ACCESS REMOTE COMPUTER, PCT WO97/01137, JANUARY 1997, page 4, lines 13-24, page 14, lines 29-35, page 15, lines 16-28, page 16, line 36, page 17, lines 1-2, lines 15-18, page 18, lines 3-10, page 20, lines 1-7, page 21, lines 6-37, page 22, lines 1-4.	1-14
X,P	US 5,640,193 A (WELLNER) 17 June 1997, col 2, lines 24-33, col 4, lines 29-45, lines 58-60, col 7, lines 11-15, col 9, lines 4-7, col 10.	1-6
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
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Date of the actual completion of the international search 18 JUNE 1998		Date of mailing of the international search report 24 AUG 1998
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US98/04204

A. CLASSIFICATION OF SUBJECT MATTER:

US CL :

395/200.33, 200.38, 200.47, 200.48, 200.49, 200.55, 200.56, 200.57, 200.59, 200.75